Whale Plan Update

National Marine Fisheries Service/Northeast April 2000

NMFS Notified of Three Potential Lawsuits

On February 14, Max Strahan filed 60-day notice of intent to sue the National Marine Fisheries Service (NMFS) for deploying fishing gear in marine waters under U.S. jurisdiction. On March 7, NMFS received a 60-day notice from the Conservation Law Foundation announcing their intent to sue NMFS over the agency's "failure to protect the Northern Right Whale from extinction." On March 9, NMFS received a letter from the Humane Society of the United States giving 60-day notice that they intend to sue NMFS under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA) for "failing to develop and implement plans for the conservation and survival of the North Atlantic right whale."

NMFS maintains that progress is being made under the Atlantic Large Whale Take Reduction Plan. The service believes that fishing and right whales can coexist, that gear can be made safer for whales, and that gear development will take time.

The gear development program will continue to follow two approaches: (1) reducing the number of lines in the water without shutting down fishery operations, and (2) devising lines that are weak enough to allow whales to break free and at the same time strong enough to allow fishermen to haul their gear.

Questions or comments about the service's position or about impacts of the potential law suits can be addressed to Chris Mantzaris, NMFS assistant regional administrator for the Northeast.

In this issue...

FY2000 Spending Plan Set; Right Whale Funds Released

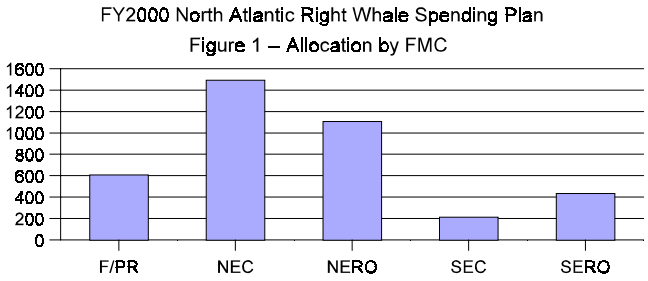
A spending plan for the FY 2000 right whale funds was finalized in late March. Nearly $4 million in right whale funding has been divided among five Financial Management Centers: the Northeast Fisheries Science Center, the Northeast Regional Office, the NMFS Protected Resources Office in Silver Springs (F/PR), the Southeast Fisheries Science Center and the Southeast Regional Office (see figure 1, next page).

Approximately 75 percent of the money will be passed on to entities outside NMFS via contracts and transfers to states and other federal agencies.

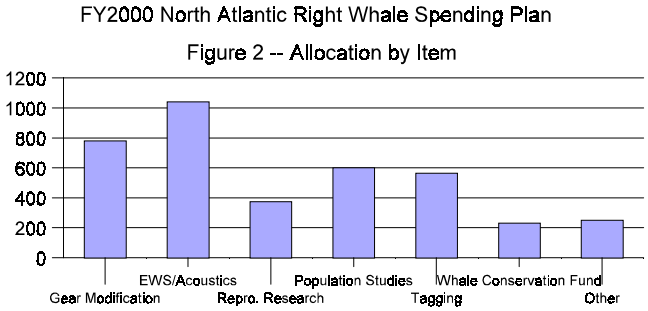
A draft spending plan was provided to the Take Reduction Team prior to the team's February meeting. NMFS evaluated comments to the draft plan before finalizing spending plans for right whale research and protection efforts in FY 2000.

In the bill appropriating the FY2000 funds, Congress specified the general areas

where they are to be spent: gear modification at $750,000; early warning surveys and acoustic studies at $1,150,000; reproductive research at $450,000; habitat monitoring and population studies at $600,000; tagging studies at $650,000, and $250,000 to the National Fish and Wildlife Foundation.



There was no language to indicate which slice of the $4.1 million appropriation should fund the $300,000 disentanglement program, which the service views as an indispensable part of the TRP. Because the disentanglement program provides information about gear that entangles whales, NMFS concluded the most appropriate place to fund the disentanglement program is in the gear modification segment of the right whale budget.



The $4.1 million appropriation for FY2000 is an increase of $3 million over 1999 right whale spending. The funds were subject to several rescissions, the largest of which was a 7.5 percent rescission on the $3 million in new funds as part of an across the board reduction required by Congress. A total of $261,630 was rescinded to NOAA, leaving $3,838,370 for right whale research, protection and recovery. As a result of the rescissions, some smaller projects in the draft spending plan will be deferred or eliminated, and some larger projects (e.g. “tagging” and “reproductive research”) will receive reduced funding during the remainder of FY2000.

MMPA, ESA, and NMFS

Right whales are protected under both the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA).

The Atlantic Large Whale Take Reduction Plan (ALW TRP) was developed under the MMPA but has important bearing on the ESA.

The MMPA required NMFS to develop a whale take reduction plan to reduce human-caused mortalities to a level below a biologically defined “potential biological removal” level (PBR). With the right whale population numbering fewer than 350 animals, the PBR was set in 1995 at 0.4. (By way of comparison, the PBR for harbor porpoises is 483 – a number that reflects the population size, which is estimated to be at least 48,000 animals.) Recent information about the status of right whales may result in the PBR being reset to zero later this year — meaning that the stock cannot tolerate any human-caused mortalities if it is going to recover.

The ESA requires NMFS to review all federally authorized activities that could jeopardize the continued existence of any endangered species. These reviews are commonly called “Section 7 consultations.” If a consultation leads to a finding that a federally authorized or funded activity is likely to cause jeopardy, NMFS must identify a “reasonable and prudent” alternative that avoids jeopardizing the species.

In 1998, NMFS conducted a Section 7 consultation on federally authorized fisheries that are capable of taking whales. The consultation determined that fisheries using lobster pots and gillnets do jeopardize large whales; in order to continue authorizing (or permitting) these fisheries under the MMPA, NMFS had to identify a “reasonable and prudent” alternative. That alternative was the large whale TRP developed under the MMPA.

Section 7 consultations must be reinitiated if (1) the activity (lobstering and gillnetting, in this case) changes in a way that changes its impact on the

endangered species, or (2) the status of the species changes.

In the case of right whales, new data indicates the status of the species has worsened, a development that required NMFS to announce earlier this year that the service intends to review the situation (or reinitiate consultation) to see if the reasonable and prudent alternative (the ALW TRP) is still sufficient to remove jeopardy.

It is important to note that reasonable and prudent alternatives are defined, in part, as alternatives that are economically and technically feasible.

With the MMPA and the ESA each having its own set of requirements, whale protection efforts can be confusing. For instance, people sometimes ask why a take by one industry may require another industry to increase its protection efforts. Why should fishermen using one type of gear have to modify their gear when a different gear type — or another industry altogether, such as shipping — causes the death of a whale?

The answer involves the concept of *jeopardy*. When a stock is reduced to a very low population, as the right whale stock currently is, then a variety of events — including a single human-caused mortality — can change the status of the stock enough to create a finding of jeopardy under the ESA. When a jeopardy finding is reached, the ESA may require additional protection from all activities that could result in takes — including activities that did not cause the most recent take.

NMFS Preparing Whale Take Reduction Plan Revisions

NMFS is working on a revision to the whale protection plan that has been in place since February 1999. The service is currently reviewing the recommendations made by the TRT at its February 22-24 meeting in Danvers, Mass. Those recommendations focused on modifications to gear throughout the right whales' range.

NMFS is also reviewing whale protection measures that received less discussion at the TRT meeting, including criteria to close areas where whales congregate near gear and to open areas whales have left.

A summary of the February TRT meeting is being prepared by the meeting facilitator, Abby Dilley. When NMFS receives that summary, it will be posted on the new whale plan website (www.nero.nmfs.gov/whaletrp/).

After reviewing the gear recommendations and other issues, NMFS plans to draft and circulate a proposed rule to improve the ALW TRP.

Meanwhile, NMFS whale plan coordinator Doug Beach offers the following points as a preliminary summary of the gear recommendations growing out of the February meeting.

For **New England waters,** the TRT agreed to recommend continuing the lobster gear technology lists (also known as "gear menus") for state waters (other than Cape Cod Bay) with one change: the weak link option should be reduced from 1,100 pound breaking strength to 600 pound breaking strength, and there should be no knot at the weak link. Cape Cod Bay would continue to have its own gear regulations as described in the 1999 ALW TRP.

The TRT broke federal waters into "Near-shore" (Areas 1 and 2 of the lobster fishery management plan) and "Off-shore" (Area 3). They recommended weak links with 600 pounds breaking strength for in-shore gear and 3,780 for off-shore. They asked for testing of off-shore gear in order to consider lower breaking strengths.

The TRT also recommended discontinuing the gear menu approach for lobster gear in federal waters. Instead, all lobster gear in federal waters would meet the following criteria:

> weak links that break without leaving a knot at the end
> elimination of knots in the buoy line
> a limit of one buoy line on all trawls up to five traps, and prohibition of single traps
> and marking of buoy lines midway in the water column with one color band to signify gear type.

The group discussed gillnet gear and made one set of recommendations that would replace the 1999 menu for both state and federal waters. Instead, all gillnet gear would have:

a knotless breakaway link (1,100) at the buoy, with no knots in the buoy line and a marking system as described in the lobster recommendations
an additional weak link (1,100 pounds) in the middle of the floatline in each net panel
and an anchoring system for strings of 20 nets or fewer, with the understanding that more nets provide adequate holding power to break the weak link.

Additionally, the recommendations call for testing of breaking strengths over the fishing season with possible reductions in breaking strength depending on the test results.

Mid-Atlantic and Southeast waters – A number of key TRT members were unable to participate in these discussions so the recommended changes and clarifications that follow must be viewed as tentative agreements.

Mid-Atlantic Gillnet Fisheries — Three items from the June 1999 Mid-Atlantic sub-group meeting were reviewed and discussed.

(1) The definition of driftnet in the TRP regulations does not fit the non-anchored gillnet fishery in the Mid-Atlantic. Mid-Atlantic fishery representatives agreed to draft a more appropriate definition.

(2) The group felt the required 22 pound Danforth-style anchor is too heavy and asked that the Gear Advisory Group follow-up on this to determine more appropriate anchor requirements.

(3) The group questioned the definition of "night' as it is applied to strikenet fishing. NMFS Southeast investigated and found the definition is written in a manner consistent with the definition for "night-time" for other activities authorized in the Southeast region.

The discussion group also agreed that new measures should be added to those currently in place to protect migrating right whales, effective from October through April (the current measures are effective December 1 to March 31).

Southeast Shark Gillnet Fishery — The group was unhappy that the 100 percent observer requirement is not being fulfilled. They strongly urged NMFS to allocate enough funding to fulfill this requirement. VMS (vessel monitoring system) was discussed as an alternative to 100 percent observer coverage, but some "reasonable" level of observer coverage would still have to be maintained. Strikenet trips in the closed area would have to include an observer.

Other Southeast Gillnet Fisheries — NMFS should require observer monitoring at a level sufficient to assess the potential for marine mammal interactions.

All Mid-Atlantic and Southeast Gillnet Fisheries — No setting or removing unanchored gillnets when a whale is observed within three nautical miles. Anchored gillnets require weak link/anchor provisions consistent with northeast requirements.

Mid-Atlantic and Southeast Pot Fisheries — The group discussed requiring pot fisheries to choose from one of the gear options on the northeast lobster pot list, but no consensus was reached on this.

In other business, TRT members expressed concern that recommendations from the 1999 TRT meeting had not yet been implemented. Team members asked for more frequent communications from NMFS. There was also discussion of the agency's plans for spending the $4.1 million in right whale money in the FY2000 budget. There was particular interest in spending on gear research.

Area closures were on the agenda but were not discussed until late in the third day of the three-day meeting. Chris Mantzaris requested a separate meeting to discuss closures. The need to develop long term contingency measures was raised, but again the time was short and the team recommended that NMFS develop contingency measures and circulate them to the team for comment.

A one-day meeting to discuss these issues is being planned for April 11, in the main conference room at the NMFS Regional Office at One Blackburn Drive, Gloucester. A letter with driving directions is going out to TRT members in late March.

TRT members were sent, via e-mail, a discussion paper to review. Members are also asked to review a Northern Right Whale Sighting paper and charts with right whale sightings overlaid with lobster and gillnet effort. Those documents were provided at the February

meeting by the NEFSC. They are also available online at the new whale plan web site described immediately below.

(www.nero.nmfs.gov/whaletrp/) Web Site and Newsletter Created

This newsletter and a new whale plan web site (www.nero.nmfs.gov/whaletrp/) are intended to provide a better flow of information to TRT members and others interested in the whale TRP. The newsletter will contain short articles and summaries of reports and other documents as they become available. The documents themselves will be posted on the new web site.

The newsletter will be e-mailed as a word perfect (version 9) attachment to TRT members and anyone else who asks to be on the distribution list. It is also available by fax. Requests for the newsletter should be addressed to George Liles (508 495-2378, or george.liles@noaa.gov).

The web site contains links to other whale information, such as Right Whale Sighting Advisory System pages on the Northeast Fisheries Science Center's site and disentanglement information on the Center for Coastal Studies' site.

NMFS welcomes comments, questions, suggestions and corrections for both the newsletter and the new web site. Address comment to Liles or Mantzaris (978 281-9328 or chris.mantzaris@noaa.gov).

1999 TRT Recommendations

In the February 2000 TRT meeting, some team members asked to be kept more closely informed of progress on implementing TRT recommendations. Doug Beach, the NMFS Northeast whale plan coordinator, offers the following status report on the recommendations the TRT offered in the 1999 meeting in Warwick:

Gear Marking — the TRT recommended a suspension of gear marking until November 1, 1999. The team urged NMFS to develop a new marking protocol to go into effect November 1, 1999; if that could not be accomplished, the gear marking in the final rule should go into effect.

Status: The gear marking requirement was suspended in January. The recommendations from the TRT 2000 meeting call for gear marking to identify gear as in-shore or off-shore lobster gear, or gillnet gear. NMFS is currently reviewing that recommendation for possible inclusion in a revision to the TRP.

Gear Lists — The team recommended that the Gear Advisory Group (GAG) review the gear technology lists. The team had special concerns about weak links coupled with anchoring and the use of 7/16" lines.

Status: The TRT 2000 recommendations would leave the 7/16" line as an option on the menu for lobster gear in state waters. Outside state waters, the 7/16" line would not be an issue under the new TRT recommendations, which would specify new gear requirements instead of the gear options (or gear menus) in the 1999 plan.

Regional Sub-Group Meetings — the team recommended that the Southeast and Mid-Atlantic each hold a regional sub-group meeting to discuss areas of concern in those regions.

Status: Several regional group meetings were held between the 1999 TRT meeting and the 2000 TRT meeting. Additionally, the three-day Danvers meeting included regional sub-group meetings.

Whale Watch Boats — the team expressed interest in Massachusetts' request that NMFS grant whale watch boats permission to approach right whales to photograph and determine if the whales are entangled.

Status: NMFS published an Advanced Notice of Public Rule-making January 4, 2000, to raise the issue of whale watch regulations. The question of whale watch boats approaching right whales is being considered under the ANPR. The public comment period closed March 6, and NMFS is now reviewing comments.

Information requested — the TRT asked for a variety of information about TRP implementation and "associated issues."

Status: The types of information the TRT requested will be posted on the new whale plan web site as they become available.

1999 Gear Research

1999 Spending -- NMFS spent $167,700 on gear research in 1999. The 1998 figure was $130,000. For 2000, Congress appropriated $750,000 for gear modification.

The 1999 funds were spent as follows:

Gear Staff Salary (Partial): $75,000
Outreach contract: $20,000
Mini-grants or contracts with fishermen for gear tests: $26,200
Bottom Latch Breakaway System: $16,700
Strength testing of gear: $8,000
Feasibility of biodegradable rope: $2,000
Travel and per diem: $11,800
Supplies: $4,000
Equipment (nets, ropes, buoys and traps): $4,000

1999 Results — Fishermen working with Glenn Salvador, NMFS's whale plan coordinator in Maine, tested a variety of gear marking ideas in 1999: paint, tape, bird-bands, hog rings, and twine wrapped into the lay of the rope.

"The bird-bands and hog rings jammed in trap haulers," Salvador said. "Paint, twine and tape turned out to be the quickest and easiest solutions."

At sea, twine is probably the best alternative because it can be used with wet rope, Salvador noted.

Maine lobstermen helped Salvador test the idea of using sinking rope for buoy lines and ground lines. The experiment took place off Jonesport, where tides are strong and sinking line would be dragged across the bottom. The lobstermen set five sets of triples on the edge of hard bottom and fished them for eight weeks. Salvador said the sinking line on all five sets showed chafing by the eighth day, and all five sets were lost within eight weeks when the line parted.

"Sinking line might work in some places — on soft bottom or hard bottom where the tide isn't real strong," Salvador said. "But it won't work everywhere."

Salvador and Maine fishermen also experimented with light float line (1/8 inch rather than the traditional 3/8 inch) on gillnets. This idea turned out to be impractical because the nets lacked buoyancy. The light line also caused the gear to tangle on deck and in the water. When the line was towed through the water to test its breaking strength, a third problem appeared: the 1/8 inch line sliced through the tow line. "It's like piano wire," Salvador said. "I wouldn't want to see that line wrapped around a whale."

In a biodegradeable rope experiment, Salvador and collaborating fishermen cut samples of 5/16 inch rope and left them on the bottom. The rope was checked every month to see how fast it degraded. Within seven months, rope that began with a 950 pound breaking strength was breaking under less than 100 pounds of strain.

Salvador and the fishermen tested several types of knotless swivels that break under strain without leaving knots or plastic that could get caught in a whale's baleen.

"The ones we tested last year broke too easily," Salvador said, "but we're trying again this year with some new designs."

Another project explored methods for attaching buoy lines to buoys without knots.

"We tried tucking the line back into the lay of the line, using hog rings, and using a wooden toggle system a guy in Maine came up with," Salvador said.

All three strategies work, according to Salvador, and some Maine fishermen are already using these methods.

In another project, fishermen took Salvador out for more than 30 trips with a load cell used to test the strain on gear during fishing.

"We checked gillnet and lobster gear, in-shore and off-shore, hauling setting, and towing gear (to simulate an entanglement)."

An electronic load cell has been gathering data at sea for the past two months on a surface buoy system in off-shore lobster gear.

A number of projects that began in 1999 are carrying over to 2000, Salvador reports. NMFS has one contract out with a Newfoundland company that is designing a bottom latch breakaway system that can be used with a messenger line. That gear is slated for testing this spring.

NMFS is currently testing gillnets with buoyant floatlines that doesn't require floats -- without floats,

the gear is presumably less likely to get caught in baleen. Fishermen from North Carolina to Maine are testing this gear. Traditional gillnets with 1,100 pound weak links are also being tested from North Carolina to Maine.

Salvador expects to test one high tech proposal this spring.

"I've been talking to a company that designs dragger-proof pop-up buoy systems," Salvador said. "We'll be testing one of their designs on a lobster boat this spring in Maine."

"Last year was the first full year of field testing," Chris Mantzaris said. "Glenn and the fishermen made a lot of progress, but we still need ideas. We're ready to look at anything people come up with — whether it is a seemingly small modification of traditional gear or a high tech, completely non-traditional idea."

2000 Gear Research Projects

The FY 2000 gear research program, like the 1999 program, will be conducted by NMFS staff and by others, including fishermen, funded by NMFS grants or contracts. NMFS will continue to look to fishermen and other gear experts for new gear ideas and will continue to work with fishermen on developing and testing promising ideas.

The NMFS gear research team includes Fisheries Engineers Al Blott (401 782-3345, Alan.Blott@noaa.gov), John Kenney (401 782-3346, jkenney@efortress.com), and Glenn Salvador (207 636-2766, seadog@waveinter.com).

A total of $450,000 is budgeted for the FY 2000 gear research program, with $240,000 slated for "New Gear Research" and "$210,000 for "Field Testing of Gear."

New Gear Research — The increase in funding should allow NMFS field staff to step up its efforts to work with fishermen to understand how whales become entangled and how the risk can be reduced. NMFS hopes much of this work can be done with mini-grants ($1,000 to $3,000 each). Some of the field work has been supported by donated vessel time. NMFS hopes this can continue, but recognizes that testing of prototype gear will sometimes require that vessel owners be compensated for lost fishing time. In addition, NMFS expects to pay for the purchase of some of the gear to be tested and to replace gear damaged during tests.

Gear engineers in recent years have made estimates of the pulling force of large whales. The NMFS gear staff is now working with the disentanglement team to get measurements of actual pulling forces of large whales while they are entangled. The staff is also gathering observations about how large whales react to entanglements. While they are working with disentanglement teams, the NMFS gear staff will also be assisting and advising on the research and development of disentangling tools.

NMFS expects to explore line that disintegrates when it is in contact with whale flesh over a period of time.

Field Testing of Gear — NMFS gear researchers have developed gillnets that do not require traditional floats along the net's float rope. These experimental nets are now being tested under commercial conditions. The next step will be the manufacture of floating rope with specific breaking strengths consistent with the TRP and the construction of 50 nets the industry can test and evaluate.

NMFS will continue to collect information on the forces exerted on gear in actual fishing conditions to identify areas where lighter gear can be used without significant loss of gear. This information will be provided to the TRT and the GAG for their use in making gear recommendations and to industry to encourage the use of lighter gear, where possible.

The NMFS gear group will continue to evaluate different methods of gear marking and will provide those results to the TRT and the GAG.

The gear research program has available for testing a variety of weak links and breakaways. NMFS is supporting the development of bottom breakaway devices and will make limited numbers available for field testing by industry as soon as possible.

TRT Poses Four Gear Questions

In its February meeting, the TRT identified four specific ideas that need testing — two of which could

make current gear more whale-safe and two of which might offer longer-term solutions to the entanglement problem.

Testing can begin almost immediately on two of the ideas, according to Glenn Salvador, NMFS's whale plan coordinator for Maine. Salvador collaborates on gear development and testing with NMFS gear engineers Al Blott and John Kenney and with fishermen who offer gear ideas or volunteer to test ideas.

The two new questions Salvador expects to explore this year involve weak links and strain. The TRT raised the question of how weak a link fishermen can put in a gillnet and still be able to retrieve the net if the lead line is parted. The team also asked how much strain is on the buoy lines in off-shore lobster gear.

"We should be able to answer those questions this year," Salvador said.

The TRT also asked NMFS to explore neutrally buoyant lines and liposoluble line that would degrade if it becomes wrapped around a whale.

Those ideas will be explored this year, Salvador said. NMFS has an order in for neutrally buoyant line and Salvador expects to begin testing in May.

"We'll use underwater video to study the idea," he said. "We're going to rig three sets of lobster gear side-by-side: one with neutrally buoyant line, one with floating line and one with sinking line."

The liposoluble line experiment may take a little longer to design.

"We don't have it on order yet," Salvador said, "but I'm talking to surgical supply companies and we'll set up an experiment as soon as we can find testable line."

Disentanglement Reports

The disentanglement network continued to expand in 1999, with an increase in trained personnel and gear from Maine to Florida. New equipment caches (provided by International Fund for Animal Welfare and Sea Grant) were placed in Maine and North Carolina. The portable cache in New England was moved to Florida for the winter. Level I, II, and III training was conducted in various locations from Maine to North Carolina. A newly-trained North Carolina crew successfully disentangled a humpback in March.

In another expansion, the Center for Coastal Studies team attempted the first off-shore disentanglement in May, 1999. The team was able to remove some gear from a right whale (#1158). The effort illustrates the difficulty of mounting disentanglement effort far from shore and the importance of aerial and vessel support to keep mobile entangled whales in sight.

Twenty-eight entanglements of large whales were reported in 1999; twenty-four were confirmed, including six right whales. Six of the 28 were successfully disentangled. In four other cases most of the gear was removed and in one case some of the gear was removed. As noted in previous years, the chances of a successful disentanglement were much higher when the person who reported the entanglement was able and willing to stand by until the disentanglement effort could be mounted.

The 24 confirmed entanglements is more than previous years. It is not known whether the actual number of entanglements is increasing, but NMFS believes the higher number of confirmed entanglements is attributable at least in part to the fact that people are increasingly aware of the importance of reporting entanglements. In 1999 reports came in from whale watch vessels, fishermen, and tuna spotters as well as from Sighting Advisory System survey flights.

As the reporting network has expanded, communications have improved and reports of entanglements are getting more quickly to NMFS and the authorized disentanglement team at the Center for Coastal Studies.

Documents and Reports available online**:**

"Northern Right Whale (#2030) Dies in New Jersey Waters," a web posting on the pages of the NMFS Office of Protected Resources (http://www.nmfs.gov/prot_res/cetacean/2030.html)

"NMFS/NER Protected Resources Division Entanglement Data and Gear Investigation 1999 Report," Dana Hartley and John Kenney, January, 2000 (see "Disentanglement" button on whale plan web page).

#2030 Post Mortem — A right whale identified as #2030 was reported dead, floating near Cape May, New Jersey, on October 20, 1999. The U.S. Coast Guard towed the animal to shore where a necropsy team examined the carcass. The animal died with gillnet fishing gear on her — a line wrapped around her body was deeply embedded in her back.

The whale was an adult female about 45 feet long and weighing approximately 50 tons. First sighted by the Center for Coastal Studies in 1990 as a juvenile in Cape Cod Bay, 2030 was old enough to reproduce but had never been seen with a calf. She had been observed on numerous occasions in the 1990s in New England, Canadian, and Southeast U.S. waters before she was sighted in May, 1999 entangled in fishing gear. That sighting was made by an SAS team doing an aerial survey of Great South Channel. 2030 was seen with the gear ten more times and researchers made five attempts to remove the gear.

For a chronology of the entanglement sightings and disentanglement attempts, see the NMFS web site (http://www.nmfs.gov/prot_res/cetacean/2030.html).

#2030 is one of six confirmed right whale entanglements observed in 1999. At least five different right whales were involved.

The death of #2030 was the third known instance in the 1990s of a gear entanglement causing or contributing to the death of a right whale. There have been four other documented cases of serious injury caused by entanglement. It has not yet been determined if any of the other right whale entanglements in 1999 constitute a serious injury.

The NMFS Disentanglement Project leader is Dana Hartley (dana.hartley@noaa.gov) (508 495-2090).

Floating Whale off Block Island — A fisherman reported a dead right whale with line on it about 8-10 miles southeast of Block Island January 19, 2000. NMFS observers and a volunteer from the Cape Cod Stranding Network (Liz Pomfret) aboard a Coast Guard aircraft were able to locate the floater and to take video from the air. The animal could not be towed in due to bad weather.

The Coast Guard, NMFS observers, and the Cape Cod Stranding Network volunteer searched for the animal for several days but could not re-locate it. Details of the entanglement and cause of death thus remain unknown.

Philip Hamilton (New England Aquarium) identified the animal from video pictures as #2701, a three-year-old female born in 1997 to #1601. She was last seen alive September 12 in the Bay of Fundy with no entangling gear visible (though her flukes were not photographed).

Update on Entangled Whale in Cape Cod Bay — On March 1 a survey team from the Center for Coastal Studies and Massachusetts Division of Marine Fisheries found a right whale with fishing line and a buoy trailing, possibly wrapped around the left flipper. The animal was sighted late in the morning in Cape Cod Bay and was traveling northwest, towards Race Point. A CCS disentanglement team stayed with the whale all day and attempted to tag the trailing gear. The animal was making long dives, which made approaches difficult, and the disentanglement team was unable to attach a telemetry buoy or to implant a VHF tag.

The team was unable to re-locate the whale the next day. Further attempts to locate the whale have been unsuccessful as of this writing.

The animal was identified by Amy Knowlton (New England Aquarium) with 99 percent certainty as number #1130 (aka Zebra), an adult male first seen in 1980. The whale was last seen in Cape Cod Bay in March of 1999, and was sighted three times over the summer of 1999 in the Bay of Fundy.

1999 Disentanglement Gear Analysis — Gear was recovered from 13 whale entanglements in 1999 and identified as: Gillnet gear (in 3 cases); lobster gear (3 cases); Canadian pot gear (2 cases, in one of which DFO recovered the gear and identified the owner); and trawl gear (2). In one case the gear was traced to a tuna permit canceled in August 1997; in another case, the gear was traced to an owner who lost the gear two years ago; and the 13th was probably lobster gear.

The NMFS Disentanglement Gear Analysis project leader is John Kenney (jkenney@efortress.com) (401 782-3346).

SAS Reports

Sighting Advisory System (SAS) — The SAS aerial surveys conducted by NMFS began March 23. The NMFS flights generally focus on the Great South Channel, but the first flight this year surveyed Long Island waters and Block Island Sound. Two right whales were sighted in the precautionary area of the Narragansett/Buzzards Bay traffic lanes. Other SAS flights will cover Platts Bank and other areas where right whales are reported, according to Pat Gerrior, SAS coordinator (508 495-2264 or pat.gerrior@noaa.gov).

The Massachusetts/Center for Coastal Studies surveys began in late January in Cape Cod Bay. Approximately 20-30 right whales, including one entangled animal, were sighted in the bay in early March. On March 23 a combination of aircraft and ship surveys in the bay resulted in 43 right whale sightings.

NMFS co-hosted a training workshop March 29 in Rhode Island for fishermen and pilots. The other co-hosts were the Rhode Island Division of Fish and Wildlife (contact April Valliere at 401 782-4753), the Naval Underwater Warfare Center, and the Rhode Island Seafood Council.

1999 SAS Summary — The SAS partners met December 13 in Boston to review the 1999 season and decided to continue the program in 2000 without any major changes.

Between January and June, 1999 the SAS issued more than 100 right whale fax alerts reporting 979 sightings of right whales from Canada to New York, from near-shore to Georges Bank. (Some animals were sighted more than once.)

Responding to suggestions that a sighting system might be conducted more cost-effectively by a contractor, NMFS accepted bids in the fall of 1999. NMFS received and evaluated one proposal, and decided to continue to operate the SAS in 2000 with NOAA personnel and aircraft for cost and safety reasons.

1999 SAS Highlights. . . include 569 sightings of right whales in Cape Cod Bay, 270 in Great South Channel, 71 in the Gulf of Maine, 51 on Georges Bank, 12 from Rhode Island and Long Island Sounds and south of Martha's Vineyard, 6 in Canadian waters. . . verified opportunistic sightings in Block Island Sound, off Long Island, on Platts Bank, and on the northern edge of Georges Bank. . . located a mother-and-calf pair south of Long Island. . . took aloft reporters and photographers from six newspapers and television stations. . . sighted three different right whales tangled in gear in the Great South Channel. . . provided aerial support on two attempted disentanglements. . . provided sighting information to the Mandatory Ship Reporting system. . . sent approximately 2,300 slides of right whales to the New England Aquarium for photo identification.

SAS Information available at the whale plan web site:

"Right Whale Sighting Advisory System (SAS)," a web posting maintained by the NMFS/NER Protected Resources Division -- includes the most recent sighting information (see the "Sighting Advisory System" button on the new whale TRP site – www.nero.nmfs.gov/whaletrp/).

Information on sightings from 1997 through 2000 is available on Whalenet (see the "Sighting Advisory System" button).

Other SAS documents and reports will be posted at the whale plan website as they become available.

Right Whale Science

NMFS's Northeast Fisheries Science Center (NEFSC) spent $320,000 in FY 1999 on right whale research and conservation. Contracts with researchers at other institutions accounted for $207,000 of that total.

Project leader for the NEFSC right whale work is Phil Clapham (508 495-2316, phillip.clapham@noaa.gov).

Objectives of the research were: (1) conduct surveys in NW Atlantic waters for right whale photo-identification, distribution, and abundance; (2) collect and analyze data on right whale habitat preferences as predictors for whale distribution; (3) maintain (with New England Aquarium) the photo-identification archives and catalogue; (4) maintain (with University of Rhode Island) the centralized right whale computer data base, incorporating sighting information as available; (5) provide analyses, data products, and publications needed for stock assessments and for

implementation of take reduction plans; (6) DNA extraction, sexing and mtDNA sequencing of all newly sampled individuals; (7) analyze population structure using mtDNA, sexing and sighting history data; (8) complete paternity and pedigree analysis by typing of all samples at three additional microsatellite loci (for a total of 12 loci); determine effective population size.

Some Highlights . . . In 1999 NMFS conducted ship and aircraft surveys in Great South Channel, the Gulf of Maine, and on the Scotian Shelf. The surveys focused on humpback and right whales and included photographs and biopsy samples. Scientists at various institutions ran the survey data through models to determine whether the population is really declining or whether some of the apparent decline may be caused by gaps in information. In an IWC population assessment workshop in October, right whale experts agreed that the population does seem to be declining and that right whales in the North Atlantic are reproducing slower than right whales in the South Atlantic. Efforts are under way to determine whether the lack of reproductive success is caused by limitations on food, inbreeding, contaminants in the environment, or some other factor.

NMFS's Northeast Fisheries Science Center continued to fund New England Aquarium's work on the right whale catalog and University of Rhode Island's right whale database. NMFS provided support for scientists at the Woods Hole Oceanographic Institution who are studying the role of blubber thickness in reproduction and biologists at MacMaster University who are studying right whale genetics, inbreeding and immune system genes.

Expanded survey efforts in recent years have resulted in a better picture of whale distribution, but at any one time it still is not known where most of the North Atlantic right whales are. It may be possible to build predictive models that tell survey teams where to look for whales -- for instance, at intersections of warm and cold water masses, where food is plentiful. NMFS scientists are exploring whether information in satellite images can direct survey teams to areas where whales are feeding. Scientists at Umass Dartmouth are also working on predictive modeling, with support from NMFS.

NMFS scientists are testing multi-beam sonar to see if scanning devices can reliably detect the presence of whales. The sonar could be placed either on ships or on buoys that would detect the presence of whales in shipping lanes. NMFS is also supporting acoustic studies by WHOI scientists who are putting tags on whales to determine what sounds the whales are exposed to in the course of their normal activities.

In a new line of research in 2000, NMFS-funded scientists at MacMaster will analyze DNA from 16th century whale bones to determine how much genetic diversity existed within the right whale population before it was hunted to near extinction in the late 19th and early 20th century.

In another new line of work, NMFS scientists will use stable isotopes to study right whale diets. Using baleen from Staccato, the female that died and was necropsied in 1999, the biologists will try to determine how the animal's diet varies in calving and non-calving periods.

In early 2000, NMFS scientists are scheduled to participate in an Entanglement workshop. Also on the agenda for 2000 are workshops on ship strike, biological problems, habitat and distribution, acoustics.

For a list of available reports and publications, see the "Right Whale Research" button on the new whale plan web site.

Ship Strike Sub-Committee Reviews Speed and Routing

The Ship Strike Sub-Committee met March 21 in Boston to discuss management tools for reducing the risk of ships striking right whales. The sub-committee reviewed papers on vessel speed and ship routing written by sub-committee co-chairs Amy Knowlton and Bruce Russell.

The sub-committee suggested revisions to the papers and developed a matrix for analyzing and evaluating proposals to reduce the risk to right whales. The papers on speed and routing are being offered as drafts-in-progress, and comments are welcomed by the sub-committee. The papers can be found online; see the

"Ship Strike Reduction/Northeast Implementation Team" button on the new whale plan web site.

The Ship Strike Sub-Committee reports to the Northeast Implementation Team, a NMFS-sponsored team established in 1994 to implement whale protection efforts under the ESA. The Ship Strike Sub-Committee is composed of shipping representatives from the Port of Boston, whale researchers, conservation groups, and state and federal officials.

Workshop Explores Medical Intervention

Two dozen whale biologists and veterinarians met February 7 at the Woods Hole Oceanographic Institution to discuss the idea of medical intervention with large whales — especially North Atlantic right whales. The scientists explored questions of when it would be clinically and ethically appropriate to take actions such as physically restraining a whale in order to disentangle it. The team also discussed the potential use of sedatives and antibiotics.

The workshop was sponsored by the Woods Hole Oceanographic Institution, the Center for Coastal Studies, and New England Aquarium. The steering committee was Michael Moore (WHOI), Andrew Stamper and Scott Kraus (NEA), and Roz Rolland (Tufts University Veterinary School). A report of the workshop is available from Michael Moore.

Next Step

NMFS is planning a one-day TRT meeting April 11, 10 a.m. to 5 p.m. in the main conference room in the NMFS Regional Office, One Blackburn Drive, Gloucester. The primary topic will be dynamic area management and contingency planning. A discussion paper is available online at the new whale plan web site – see "What's New," "Upcoming Meetings."

After that meeting, NMFS will move as quickly as possible to develop and publish a revised plan based on the recommendations of the TRT.

Simultaneously, NMFS intends to reinitiate consultation (under section 7 of the ESA) to determine whether certain fisheries (including multispecies, lobster, dogfish and monkfish) jeopardize the survival of North Atlantic right whales.